Why are Gandhi and Thoreau AFK?
In search for civil disobedience online

Jan-Peter Kleinmans

UPPSALA
UNIVERSITET

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This thesis investigates if Distributed Denial-of-Service attacks constitute a valid form of civil disobedience online. For this purpose a multi-dimensional framework is established, drawing on Brownlee's paradigm case and classical theory of civil disobedience. Three different examples of DDoS attacks are then examined using this framework - the attacks from the Electronic Disturbance Theater in support of the Zapatista movement; Anonymous’ Operation Payback; Electrohippies’ attack against the World Trade Organization. Following the framework, none of these DDoS attacks are able to constitute a civilly disobedient act online. The thesis then goes on and identifies four key issues, drawing on the results from the examples: The loss of ‘individual presence’, no inimitable feature of DDoS attacks, impeding free speech and the danger of western imperialism. It concludes that DDoS attacks cannot and should not be seen as a form of civil disobedience online. The thesis further proposes that online actions, in order to be seen as civilly disobedient acts online, need two additional features: An ‘individual presence’ of the protesters online to compensate for the remoteness of cyberspace and an inimitable feature in order to be recognizable by society. Further research should investigate with this extended framework if there are valid forms of civil disobedience online.

Keywords: Civil Disobedience, Electronic Civil Disobedience, Virtual Sit-Ins, Distributed Denial-of-Service attacks, DDoS attacks, Political Action, Anonymous, Electrohippies, Electronic Disturbance Theater, Digital Activism, Hacktivism
Introduction

What have the Spanish police, the Tunisian government, the Westboro Baptist Church, PayPal, the Church of Scientology and 9gag.com in common? They all have been targets of denial-of-service (DoS) attacks by the hacker collective Anonymous. A denial-of-service attack tries to take down – or at least slow-down – a website by sending vast amounts of requests to the server. Ultimately the server will break down under the workload and thus the website is no longer accessible. (Mirkovic and Reiher 2004, 39) The frequency and variety of DoS attacks by Anonymous makes it hard to keep track of all their targets. While writing this section North Korea (Huffington Post UK 2013) and Myanmar (LeakSource 2013) are amongst their newest targets. Although Anonymous is the most prolific hacker collective and hits the headlines regularly, other hacktivists like the Electronic Disturbance Theatre or the Critical Art Ensemble also used DoS attacks in the past as a form of online protest. (Wray 1999, 107) Their argument is that by “occupying” online space these kinds of attacks are virtual sit-ins and thus a form of civil disobedience. (Calabrese 2004, 332) With this reasoning Anonymous started in January 2013 an online petition at the White House that asked to recognize distributed denial-of-service (DDoS) attacks as a valid form of protest. (Jauregui 2013)

The Critical Art Ensemble stated already 1996 that “as far as power is concerned, the streets are dead capital!” (Critical Art Ensemble 1996, 11) Following their argument occupying streets or entrances of buildings has become ineffective because “information-capital continues to flow.” (ibid. 9) Thus new forms of protest and civil disobedience are needed. This is in line with Castells’ view that our “new economy is organized around global networks of capital, management, and information, whose access to technological know-how is at the roots of productivity and competitiveness.” (Castells 2000, 502) According to him the biggest challenge for social movements today is how to influence global financial and information flows, or rather “how to ‘grassroot’ the space of flow.” (Castells 2009, 52) If we assume that transnational networks play a vital role in our today’s society and because of that classic civil disobedience is ineffective: Are DDoS attacks a viable new form of civil disobedience?

Evidently this research question makes some assumptions that I in the following want to make transparent. The first and foremost is the assumption that civil disobedience is important and plays a vital role in a healthy democracy. This argument is brought forward by a variety of philosophers and will be covered in-depth in the chapter about the history of civil disobedience. The second presupposition is that civil disobedience is different from violent
protests or revolution and constitutes a specific form of dissent by upholding certain values and characteristics. These characteristics will also be discussed in the chapter about civil disobedience. Since there is no clear definition of civil disobedience and quite some disagreement about different characteristics – e.g. the question of non-violence or accountability – a framing for this thesis will be established. The last two presuppositions are that our society changed and that virtual networks and information play a fundamental role today. And that accordingly civil disobedience needs to be effective also in the virtual sphere. Thus there is need for new forms of civil disobedience that take place online.

In a nutshell the assumptions for this thesis are that civil disobedience is important for a democracy but new forms need to evolve just as society advances. The tricky part though is not to sacrifice the spirit of classical civil disobedience just for the sake of protesting and voicing once discontent. Consequently in the research investigated if DDoS attacks can be seen as such an evolutionary step of civil disobedience. The conclusion is that for several reasons DDoS attacks cannot be seen as a form of civil disobedience online.

The structure of the thesis naturally follows this line of arguments by first giving an overview of the discourse of civil disobedience, identifying crucial characteristics and establishing a multi-dimensional analytical framework. A short introduction of Distributed Denial-of-Service attacks follows that focuses on understanding the general technique and the different actors who use these kinds of attacks. The third chapter gives three examples of DDoS attacks that will be analyzed using the framework established in chapter one. It concludes that DDoS attacks, following the framework, may not constitute a valid form of civil disobedience. The subsequent discussion chapter elaborates on certain issues of DDoS attacks as civil disobedience that are not covered by classical theory. In a nutshell the following questions will be answered in the course of this thesis: (1) What is Civil Disobedience and what are the key characteristics? (2) What are Distributed Denial-of-Service attacks? (3) Do DDoS attacks constitute a form of civil disobedience? (4) What are the key issues of DDoS as civil disobedience online?
Civil Disobedience

Four African-American students sat down in the ‘whites-only’ area in Greensboro Woolworth’s on February 1st 1960. With this they conscientiously acted against the racial segregation law of that time. The waiter asked them to leave and then ignored them but the students kept their seats until the store closed. The following days more and more African-American students entered the Greensboro Woolworth’s and occupied the seats to protest non-violently against the racial segregation. Local newspapers and TV stations immediately picked up the story. (Edwards 2010) Today these events are seen as important moments of the Civil Rights Movement in the US. The student sit-ins were quickly adopted in other cities and just a few months after these civilly disobedient acts started, Greensboro changed its racial segregation law. (Morris, 1981, 751)

Another example of more recent civil disobedience happened 2003 in Denver when three nuns entered military grounds for anti-war protest. The three elderly nuns cut fences to get access to a nuclear missile silo on which they painted crosses using their own blood, pounded against the silo and tracks with household hammers and lastly prayed for world peace until they were arrested. (Cada 2003) One of the nuns explained their intent that, “It is our duty to do what we can to stop the slaughter, these weapons were on high alert and they were pointed at thousands of innocent people.” (ibid.) The three nuns did similar acts of civil disobedience in the past and were sentenced to 2-3 years - although the maximum sentence would have been 30 years and the guidelines call for a minimum of six years. (USA Today 2003) The case got a lot media attention since many people felt that the sentences were too severe.

By and large the Occupy Wall Street and later Occupy Everywhere protests can also be perceived as acts of civil disobedience. Everything started in September 17th 2011 when hundreds of protesters illegally occupied the privately owned Zucotti Park in New York, between Wall Street and World Trade Center. Although without a clear goal but with a lot of determination the protesters built tent cities and organized street protests - identifying themselves as “the 99%”. (Schneider 2011) Over the following months the protests acquired massive media attention, in part due to unwarranted use of force by the police and the obvious lack of tangible demands. (ibid.) The protests were quickly adopted in a myriad of cities all over the world - thus evolving from 'Occupy Wall Street' to 'Occupy Everywhere'. Jeffrey Juris writes that “the impact of the #Occupy movements can already be gleaned from subtle shifts in public discourse, including that of U.S. politicians, who are increasingly talking about unemployment, poverty, and inequality.” (Juris 2012, 273)
These examples are just a glimpse of what falls under the umbrella term of civilly disobedient acts. They shall rather provide a vantage point for the following endeavor of illuminating the history and discourse of civil disobedience. One can easily recognize that already these three examples differ drastically in many aspects. To name just a few: The number of participants can differ from rather small groups of citizens to large protests of several thousand people. Acts of civil disobedience can be focused on a particular law or they might have a more revolutionary character – like that of the Occupy Wall Street protests. It can be non-violent or include violence against private or public property as seen in the example of the nuns. Furthermore it is either directed at the government or private companies. It is a bit like David W. Selfe wrote in 1988, that “a major problem facing any analysis of civil disobedience is simply determining what one is actually discussing. The criteria and preconditions of civil disobedience mean many different things to many different people.” (Selfe 1988, 149)

Thus in order to determine “what will be actually discussed” the chapter first illuminates the purpose and role civil disobedience plays in a society. After that the focus lies on identifying key characteristics and the justification of civil disobedience to ultimately establish a multi-dimensional framework for analyzing supposed acts of civil disobedience.

B Nature and Purpose
Referring to works from Virginia Held (Held, Nielsen, and Parsons 1972) and Martin Luther King’s letters from jail (King 1963), Lawrence Quill argues that every modern democracy is in need of the possibility for “creative tension” that is created by civil disobedience. (Quill 2009, 166) According to him the purpose and most important feature of civil disobedience is to alter “the relationship between those who govern and those who are governed by asserting an element of spontaneity and freedom into the order of things, providing a space in which citizens might see their society from a different angle thereby alerting them to political possibilities that, hitherto, remain hidden inside common sense.” (Quill 2009, 165) Others before Quill have already pointed out the importance of civil disobedience in a democratic society. In his famous essay “On the Duty of Civil Disobedience” from 1849 the American transcendentalist Henry David Thoreau states that once a majority is allowed to rule it “is not because they are most likely to be in the right, nor because this seems fairest to the minority, but because they are physically the strongest.” (Thoreau 1849, 2) Peter Singer argued 1973 that “it has long been recognized that there is a danger of injustice in democracy because the democratic system takes no account of the intensity with which views are held, so that a majority which does not care very much about an issue can out-vote a minority for which the issue is of vital concern. By civil disobedience the minority can demonstrate the
intensity of its feelings to the majority.” (Singer 1973, 122) Howard Zinn also argues that one of the purposes of civil disobedience is to give intensity to the expression of a minority. In Zinn’s view this cannot be done by voting or public speaking. He says that “if we are to avoid majority tyranny over oppressed minorities, we must give a dissident minority a way of expressing the fullness of its grievance.” (Zinn 1997, 383) Another purpose in his view is to break through prejudice and tradition, “Protest beyond the law is not a departure from democracy; it is absolutely essential to it. It is a corrective to the sluggishness of "the proper channels," a way of breaking through passages blocked by tradition and prejudice. It is disruptive and troublesome, but it is a necessary disruption, a healthy troublesomeness.” (ibid.) But not only oppressed minorities benefit from acts of civil disobedience as Matthew R. Hall argues. In his view “civil disobedience broadly benefits society by liberating views divergent from the status quo – in much the same manner as free speech itself – and maximizing the prospect that a democratic society will correct its mistakes.” (Hall 2006, 2083) The German sociologist Jürgen Habermas takes a similar stand and argues that “civil disobedience is part of a thriving civil society and public sphere, because it is a way for the citizens to turn around the circulation of power.” (Thomassen 2010, 127)

The question now is how civil disobedience achieves this? What is so special about its nature that civilly disobedient acts can be of such vital importance for a society? In Matthew R. Hall’s opinion “civil disobedience occupies a crucial, but precarious, role in our political system. The philosophy of civil disobedience embodies the recognition that obligations beyond those of the law might compel law breaking, but the doctrine steers that impulse toward a tightly-cabined form of illegal protest nevertheless consistent with respect for the rule of law. As such, civil disobedience serves as a firebreak between legal protest and rebellion, while simultaneously providing a safety valve through which the profoundly disaffected can vent dissent without resorting to more extreme means.” (Hall 2006, 2083) Brian Huschle also argues that, in its nature, civil disobedience lies between legal activism and revolutionary acts. He elaborates that “the power of civil disobedience lies on the fine line it walks between activism and revolution... By maintaining this delicate balance, the agent simultaneously shows both respect for the system of law and a willingness to work within that system to bring about the desired change – characteristics also found in activism. Unlike activism, civil disobedience demands the immediacy of change that revolutionary behavior demands. If this delicate balance is not maintained, the agent loses both the power to demand immediate change and the respectability of the moral high ground.” (Huschle 2002, 73) American philosopher John Rawls wrote that “civil disobedience has been defined so that it falls between legal protest and ... conscientious refusal and the various forms of
resistance on the other. In this range of possibilities it stands for that form of dissent at the boundary of fidelity to law. Civil disobedience, so understood, is clearly distinct from militant action and obstruction; it is far removed from organized forcible resistance.” (Rawls 1973, 367) Ultimately “the civil disobedient’s actions are political by their very nature.” (Cohen 1969, 212)

It appears there is sufficient evidence to support the argument that civil disobedience plays a vital role in a democratic society. At the heart of civil disobedience lays the idea of providing a space for citizens to see another perspective of dominant politics – to question the status quo. Through this act and in this space minorities have the possibility to voice their discontent with greater intensity. It creates the opportunity to challenge power relations – however short it may be. Ultimately civil disobedience may introduce elements of unpredictability and spontaneity into institutionalized democracy that may encourage civic engagement and commitment.

Those aspects can be easily recognized in the before mentioned examples. By painting crosses on the nuclear missile silo using their own blood and pounding with household hammers against the outer concrete wall the three nuns expressed how intensely they feel about nuclear weapons. At the same time they showed their fidelity to law by accepting being arrested by the police and the following sentences. Looking at Occupy Wall Street the determination of many disobedients, who sat in the parks for months, speaks in itself about how strongly they feel about the issues against which they protest. This is also true for the Greensboro sit-ins and the Civil Rights Movement in general. Apparently the majority did not care about racial segregation laws in this time. Only through their civilly disobedient acts were the African-Americans able to show the majority how strongly they feel about this issue. While at the same time identifying themselves as part of the system. Keeping the purpose of civil disobedience and its special nature in mind, the next chapter will focus on identifying key features of civilly disobedient acts.

**How to Define Civil Disobedience**

After assessing that civil disobedience plays a vital role in society, the task ahead now is to shed some light on what exactly constitutes an act of civil disobedience. This could be done rather quickly by pointing to American philosopher Carl Cohen, who defines that “an act of civil disobedience is an illegal public protest, non-violent in character.” (C. Cohen 1966, 3) John Rawls takes a similar stand by arguing that civil disobedience has to be a “public, nonviolent, conscientious yet political act contrary to law usually done with the aim of
bringing about a change in the law or policies of the government.” (Rawls 1973, 364) And he further elaborates that “by engaging in civil disobedience a minority forces the majority to consider whether it wishes to have its actions construed in this way, or whether, in view of the common sense of justice, it wishes to acknowledge the legitimate claims of the minority.” (Rawls 1973, 366)

Both definitions grasp the spirit of the Civil Rights Movements and its non-violent sit-ins quite well. Looking at the example of the Greensboro sit-ins the African-American students conscientiously broke the racial segregation law by sitting down in the “whites-only” area in Woolworth’s. It was a public, non-violent protest against a specific law or policy. Their aim was to bring about change by appealing to the common sense of justice. This seems to fit quite well with both definitions. But what about the three nuns in Denver? Their acts were not public until they were arrested and the media covered the story. They used violence – however minor – against military property and they prayed for world peace. So they were not focused on a particular law or policy but rather against war in general. Yet they broke the law conscientiously and wanted to shift the public’s perspective on this issue. One of the nuns said that “‘We are willing to go to prison if that is what we have to give for peace. We know that there are millions of others who share our dream and hope for a world without war.” (Cohen 2003) Thus they displayed how strongly they feel about this issue and were willing to accept the consequences. Their actions fit the purpose of civil disobedience but they are somewhat outside the definitions of both Cohen and Rawls. The same is true for the Occupy Everywhere protests. Who is right?

Just as society evolved over the decades so did the theory of civil disobedience. Especially during 1960 to 1980 this field got a lot of academic attention. Philosophers, sociologists, legal scholars and others tried to define the boundaries and features of civil disobedience while society used it in countless ways for a myriad of reasons. LeGrande put it best by observing that “when examining ‘civil disobedience’, one must immediately recognize that the formulation of a single all-encompassing definition of the term is extremely difficult, if not impossible. In reviewing the voluminous literature on the subject, the student of civil disobedience rapidly finds himself surrounded by a maze of semantical problems and grammatical niceties. Like Alice in Wonderland, he often finds that specific terminology has no more (or no less) meaning than the individual orator intends it to have.” (LeGrande 1967, 393) This can be exemplified by critically analyzing Rawls theory and its assumptions.

One of those presuppositions in Rawls theory is the “common sense of justice” in a “nearly just society. This implies that there exists a constitutional regime and a publicly recognized
conception of justice.” (Rawls 1973, 386) However the theory of a ‘common sense’ in society has been challenged by many authors. The Italian Marxist Antonio Gramsci writes that the “most fundamental characteristic [of common sense] is that it is a conception which, even in the brain of one individual, is fragmentary, incoherent and inconsequential, in conformity with the social and cultural position of those masses whose philosophy it is.” (Gramsci 1971, 419) Hannah Arendt wrote about modernity after the Second World War that “since the beginning of this century, the growth of meaninglessness has been accompanied by loss of common sense.” (Arendt 2011, 383) But even if we would agree that there – hypothetically – can be a common sense of justice in a society this does not automatically mean that this common sense provides an unambiguous answer to an issue. Peter Singer thus argues that “many of the issues which have led to civil disobedience in recent years have been of this more complex kind. This is why I do not think it helpful to assume that most issues arise from deliberate disregard of some common principles.” (Bedau 1991, 128) Looking at some of the viewpoints of Occupy Wall Street it is immediately clear that this form of civil disobedience cannot be characterized as a deliberate disregard of a common principle. (NYC General Assembly 2011)

Another important aspect of Rawls’ theory, which has been mentioned in the previous chapter, is the conception that civil disobedience “attempts to formulate the grounds upon which legitimate democratic authority may be dissented from in ways that while admittedly contrary to law nevertheless express a fidelity to law and appeal to the fundamental political principles of a democratic regime.” (Rawls 1973, 385) Thus he sees it in stark contrast to revolution and militant protests since civil disobedience acknowledges the basic principles of democracy and expresses “fidelity to law”. However as Lawrence Quill points out, Gandhi, Thoreau and King – often seen as the founding fathers of civil disobedience so to speak – all “thought that a higher law compelled them to resist state law.” (Quill 2009, 16) According to Quill “some forms of civil disobedience appear to contain a revolutionary element.” (ibid.) Indeed Gandhi states December 1909 in his newspaper Indian Opinion that his “notion of loyalty does not involve acceptance of current rule or government irrespective of its righteousness or otherwise.” (Gandhi 2010) Similar revolutionary aspects can be found in speeches from Martin Luther King, Jr. In a speech called “Love, Law and Civil Disobedience” from 1961 he refers to the political and legal system as evil and promotes noncooperation as a “moral obligation”. (King 1990, 623) David Lyon also criticizes that popular civil disobedience theory often misses that “it would not have been reasonable for [Gandhi, King or Thoreau] to have regarded the prevailing system as sufficiently just to support political obligation.” (Lyons 1998, 40) Hence contrary to Rawls’ understanding it seems there can
very well be civil disobedience with a revolutionary character that denies the political system its legitimacy.

These two critical points of Rawls’ theory should just demonstrate that - as Welfe and LeGrande observed - every clear-cut definition is bound to fail. Since the concept of civil disobedience is so dependent on world views and ideology it seems much more promising - especially in the scope of this thesis - to approach this problem as a paradigm case. For that purpose Kimberley Brownlee’s work will be utilized, who said that “a definition implies that civil disobedience has clear edges. Since, however, people undertake political dissent for a variety of reasons and their dissent takes a variety of forms, it is not possible to draw sharp lines between civil disobedience and other types of dissent such as conscientious objection, terrorism and revolutionary action. Thus, a paradigm case approach, which specifies only what surely counts as civil disobedience, is more accommodating of the complexities in this multifarious practice than a definitional approach would be.” (Brownlee 2004, 339)

B Features of Civilly Disobedient Acts

In her paradigm case approach Kimberley Brownlee defines the following “key features: these actions involve (1) conscientious and (2) communicative breaches of law for the purpose of (3) demonstrating protest against a law and/or (4) persuading lawmakers to change the law.” (Brownlee 2004, 338) These key features of civilly disobedient actions will be discussed in the following.

Conscientiousness. Brownlee elaborates that the two important attributes of a conscientious act are sincerity and seriousness. (ibid. 340) A person sincerely and seriously believes that a law or policy is so wrong that she cannot just try to avoid but has to act against it. She must have the sincere belief that the government is also wrong in pursuing this law. Thus she has certain reasons to make her voice heard and weighs them against reasons who speak against protesting. “What matters for conscientiousness is that a person acknowledges the reasons for action that are generated by her commitments and beliefs.” (ibid. 341) One can find similarly clear definitions from other authors, like Matthew R. Hall who defines civil disobedience as “an act of conscience - defiance of law borne out of a deeply-held belief in the injustice of a law or policy.” (Hall 2006, 2088) “The person who believes that a law warrants revision and who makes an all things considered judgment to engage in civil disobedience against that law demonstrates the sincerity, seriousness and consistency of commitment found in true conscientiousness.” (Brownlee 2004, 342) Thus self-respect and moral consistency are of great importance so that the civil disobedience actually happens.
Looking at the students, nuns and occupiers from our examples the centrality of conscientiousness can be easily understood. All of these civilly disobedients felt so strong about an immoral law or injustice that they could no longer ignore it. Ignoring it would have meant to act against one's moral believes. “Justified disobedience is disobedience grounded upon deeply and conscientiously held values and commitments.” (Brownlee 2006, 189) An important aspect of this definition of conscientiousness is that it is only focused on the seriousness, sincerity and moral consistency of the disobedient and thus evades many problems of where this strong believe may come from. Hall points out that there is a controversial debate about what constitutes a “permissible source of this belief.” According to him for some scholars this source can only be religion, a common sense of justice (see Rawls), or “multiple obligations overriding the law.” (Hall 2006, 2088)

Communication. The feature of communication will need some elaboration since Brownlee distinguishes between means of communication – those are the words, gestures, signs or language that is used – and the modes of communication which refers to aspects like coercion, violence, publicity and direct or indirect action. (Brownlee 2004, 343) By highlighting the communicative aspect of civil disobedience and seeing violence or publicity as modes of communication Brownlee evades a pitfall of classical theories. Furthermore responsibility lies on both, the sender and the receiver of the communicative act. The protester (sender of communication) must consider if the receiver (likely the government but also private parties) is able to understand her message and if the chosen means and mode of communication are “likely to foster that understanding”. (ibid.) At the same time there is the responsibility of the receiver to listen – which might render acts of civil disobedience less successful in authoritarian regimes. Additionally the intentional communication that Brownlee speaks of is more than mere 'expression' of other theories. The intention of the disobedient is “to communicate certain views and ideas through disobedience of the law.” (ibid. 344)

The communicative feature has a forward-looking and a backward-looking aspect. The backward-looking aim of the dissident manifests itself in her protest, the disavowal of the immoral law and the need to communicate to society based on moral consistency of the dissident. The forward-looking aim is to bring about a lasting change – that the government not only changes its policy but internalizes it for the future. This aim to bring about change and to communicate not only with the government but with society connects with the first feature of seriousness and sincerity. “To be sincere and serious in her aim to bring about a lasting change in governmental policies, she must recognise the importance of engaging policymakers in a moral dialogue.” (ibid. 347) Lastly civil disobedience can also be indirect –
conscientiously breaking a law that is not opposed by the protester in order to communicate the law one opposes. (Brownlee 2010) This would be the case for the nuns who trespassed in military area in order to protest against nuclear weapons. This is also true for the Occupy Wall Street protests who illegally occupied the privately owned Zucotti Park while protesting for global justice. In contrast to that the Greensboro sit-ins were direct civil disobedience since they broke the racial segregation law which they deemed immoral.

Violence and Coercion. Following Brownlee’s paradigm case approach violence and coercion are modes of communication. While coercion is counter-productive if one wants to make a lasting change, violence can be a justifiable mode of communication for civil disobedience. She argues that civilly disobedient acts can be violent without being coercive. An example would be Buddhist monks who set themselves on fire in protest against Buddhist persecution by the Vietnamese and Chinese government. (Huffington Post 2013) The same is true for the three nuns who used violence against themselves and against military property to communicate without being coercive. Yet ultimately “a person should use violence in civil disobedience prudently, discriminately and with great reluctance.” (Brownlee 2004, 350) Although many authors in the 60s and 70s perceived non-violence as a key characteristic of civil disobedience, especially during the last decades more and more scholars concluded that there might be justifiable violent civil disobedience.

In Matthew R. Hall’s opinion “civil disobedience must take place nonviolently, with a minimum of force, and with respect for the rights and interests of others.” (Hall 2006, 2083) The rationale why it is so important to protest in a non-violent way provides John Rawls. According to Rawls civil disobedience tries to address issues in the public – similar to public speech. Thus civil disobedience has to be non-violent, not out of distaste for violence but “because it is a final expression of one’s case. To engage in violent acts likely to injure and to hurt is incompatible with civil disobedience as a mode of address. Indeed, any interference with the civil liberties of others tends to obscure the civilly disobedient quality of one’s act.” (Rawls 1973, 366) David Lyons and other argue in a similar way by saying that violence “diverts attention from the issues”. (Lyons 1998, 43) From a theoretical point of view Rawls’ argument that violence impedes the chances that the public listens, seems reasonable. Additionally, Gene Sharp found in his studies about nonviolent protests that “as cruelties to nonviolent people increase the opponent’s regime may appear still more despicable, and sympathy and support for the nonviolent side may increase. The general population may become more alienated from the opponent and more likely to join the resistance.” (Sharp 1973, 680) Greenawalt, himself quite skeptical about civil disobedience as a strategy to
change laws, thinks that the justification of an act depends heavily on “nonviolence and willing submission to punishment.” (Greenawalt 1970, 76)

Although these sources seem to establish a clear case for non-violence as an immanent feature of civil disobedience one has to distinguish between violence against a person and violence against property. As Neumann put it one has to differentiate “the rock thrown through a window from the rock thrown at another human being.” (Neumann 2000) Another distinction is if the violence is directed at others or oneself. Following Sharp’s argument and drawing on the work of David Garrow (1978), Lawrence Quill states that Martin Luther King, Jr. chose protest places with a great likelihood for police violence. Quill concludes that “the intention was to generate public sympathy as the media focused attention on violence against peaceful demonstrators.” (Quill 2009, 17) Lefkowitz considers also the symbolic destruction of public property inside the boundaries of civil disobedience. (Lefkowitz 2007, 216)

Thus Brownlee’s assessment that it might be justifiable to use violence without being coercive in an act of civil disobedience seems very reasonable. Since “discriminate, well-considered violent civil disobedience can provide an eloquent statement of both the dissenter’s frustration and the importance of the issues he addresses.” (Brownlee 2004, 350) The truthfulness of this consideration can be easily seen in the Occupy Wall Street protests and the civilly disobedient acts of the three nuns. The former gained a lot of media attention after unwarranted police violence against peaceful protesters. (Schneider 2011) The latter used violence against military property and themselves conscientiously to communicate their plea with greater intensity.

Publicity. Another mode of communication is publicity. Similar to non-violence many scholars perceived publicity or openness as a mandatory characteristic of civilly disobedient acts. John Rawls stresses “that civil disobedience is a public act. Not only is it addressed to public principles, it is done in public. It is engaged in openly with fair notice; it is not covert or secretive.” (Rawls 1973, 366) Habermas connects civil disobedience to his theory of the public sphere and argues that it is “[part of the] ‘wild’ public, that is, the unorganized networks of communication and action outside the formal political system.” (Thomassen 2010, 127) Francis A. Allen also argues that “the conduct of the actor, even though illegal, must be open and public”. (Allen 1967, 9) Katz has a similar view by defining civil disobedience as a “conscientious, public, and nonviolent protest against a law or policy that the actor considers unjust.” (Katz 1984, 905) American philosopher Hugo Adam Bedau argues that the disobedient is “making an appeal to conscience” of society. (Bedau 1991, 6)
He elaborates that in order to achieve this “it is unlikely that illegal conduct done covertly is to be regarded as civil disobedience. Or at least it is clear why, if one regards the purpose of civil disobedience to be in part the moral education of society at large, it is impossible to achieve that aim while keeping hidden the fact that one has broken the law.” (ibid. 7)

Again coming back to the examples this seems reasonable for the Greensboro sit-ins and the Occupy Wall Street protests. Because these protests were open and public media and society in general had the chance to interact with the protesters – understand their claims and form an opinion. Yet it leads to a problem for the three nuns in Denver. If they would have informed the officials beforehand, it quite surely would have made their act of disobedience impossible. There are more examples of secretive or at least non-public civil disobedience during the last decades – like from some animal rights activists. Brian Smart thus argues that “the requirement of fair notice might well frustrate the performance of the civil disobedience and prevent it from being made public, so advance publicity cannot be a requirement of all civil disobedience.” (Smart 1978, 260) Brownlee, drawing on Raz’s and Smart’s work, also concludes that “covert disobedience is sometimes more successful than action undertaken publicly and with fair warning. Only after the fact does a person need to make it known that an act of civil disobedience has occurred, and what the motivation behind it is.” (Brownlee 2004, 349) Thus one can argue that in the case of the three nuns it was sufficient that, after being captured, they talked to the media and military officials about their intention and motivation. Lastly, as Greenawalt points out one may not forget that there might be circumstances where a law or government is so wicked that one cannot possibly act in public. (Greenawalt 1970, 67)

Protest and Persuasion. The final two key features of the paradigm case for civil disobedience are directed at the purpose of the civilly disobedient act. The first purpose is to express one’s protest against an immoral law or practice. The second purpose seeks lasting change by persuading the government to amend the law. Both of these purposes connect to the forward- and backward-looking aspects of communication and the conscientiousness of the protester as mentioned before.

B Summary

It has been stated before that conscientiousness and communication have a close link. If a citizen sincerely believes that a decision, practice or law is immoral, in order to be morally consistent, she has reason to communicate her disavowal of that law. Thus this close connection between conscientiousness and communication leads to the person protesting
against the law with the purpose to bring about change. How sincere a person is about these outcomes is “reflected in the mode of civilly disobedient communication that a person adopts: aiming not to coerce, but to persuade lawmakers and the public of the need to revise a law or policy is a mode of communication that demonstrates conscientiousness.” (Brownlee 2004, 350) Using this multi-dimensional framework, or paradigm case, and looking back at the three examples of protests from the beginning one can indeed assess that all of them – although quite different in nature – are acts of civil disobedience. Using this framework, which focuses on the conscientiousness of the dissident and the communicative aspects of her acts, one evades many of the pitfalls of classical all-encompassing definitions. The following graphic visualizes these four key features of civilly disobedient acts and the interplay between them. This provides a viable framework to analyze Distributed Denial-of-Service attacks in the next chapters.

N Analysis of DDoS as Civil Disobedience N

Distributed Denial-of-Service (DDoS) attacks have been around for more than a decade now. In general DDoS attacks can be defined as “a large-scale, coordinated attack on the availability of services of a victim system or network resource, launched indirectly through many compromised computers on the Internet.” (Kaur and Sachdeva 2013, 332) These attacks exploit the infrastructure of the Internet by sending vast amounts of requests to the targeted server and “consume the resources of a remote host or network that would otherwise be used to serve legitimate users.” (Moore et al. 2006, 116) This exceptionally high workload
ultimately renders the server - and thus all the services and websites that are hosted on this physical server - unavailable until the attack ends. DDoS attacks as a form of online protesting almost always rely on vast amounts of participants who voluntarily use certain programs to take part in coordinated attacks against certain servers or websites. The hacktivistic group or collective that organize these attacks propagate the necessary information through their websites, Twitter channels and IRC chats. Everybody who follows the simple instructions can then participate in these protests. (Mansfield-Devine 2011b, 6) In this chapter three different examples of DDoS attacks will be analyzed. Similar to the three examples of classic civil disobedience these cases were chosen to be as diverse as possible.

B The Zapatista Movement

When talking about DDoS attacks as a form of online protest one has to mention Electronic Disturbance Theater's (EDC) attack in support of the Zapatista movement on 9th September 1998 - which could be seen as one of the first uses of DDoS as online protest. The Zapatista movement consists of indigenous Maya people that struggled against the domination by the Mexican government and the exploitation through the Free Trade Agreement. To support their cause the EDC launched a DDoS attack using their own FloodNet software. The goal was to show their support of the Zapatista movement by taking down websites of the President of Mexico, Ernesto Zedillo, the Frankfurt Stock Exchange and the US Department of Defense. (EDC 1998) One of the EDC members said that the aim was “to help the people of Chiapas to keep receiving the international recognition that they need to keep them alive.” (McKay 1998) The FloodNet software relied on the number of participants and the EDC described the action as a “collective weapon of presence” and “an example of conceptual net art”. (Stalbaum 1998) On their official website the EDC explained the action, why they chose these targets and how to participate. (EDC 1998) Stefan Wray, co-founder of the Electronic Disturbance Theater, writes about this action that “globally, 20,000 connected to the FloodNet browser on September 9 and 10. This action reverberated through European media.” (Wray 1999a, 6) The question now is if this protest can indeed be perceived as civil disobedience online?

Following the multi-dimensional framework established in chapter one, the first step is to examine the conscientiousness of the protesters. Brownlee writes that “Conscientiousness essentially involves a sincere and serious commitment to, or belief about, something.” (Brownlee 2004, 340) Furthermore she elaborates, “What matters for conscientiousness is that a person acknowledges the reasons for action that are generated by her commitments and beliefs... Considerations of self-respect and moral consistency thus give her subjective
intrinsic reasons relating to her own values to communicate her judgments by dissociating herself from laws that she opposes.” (ibid. 342) This degree of serious commitment and sincerity of their reasons can surely be said about the members of the Electronic Disturbance Theater. Coordinating this campaign, creating the websites and programming the tool, speak at least to some extent about a conscientious act and a serious commitment to their cause to help the Zapatista movement. Stalbaum, one of the members, said in an interview about their choice of targets that “We protested the Mexican president's site for an obvious reason. We protested the Pentagon site because we believe that the US military trained the soldiers carrying out the human rights abuses at the School of the Americas.” (McKay 1998) But what about the tens of thousands of participants who “heed the call” and took part in the collective action? The participants visited a website and clicked on a button. One does not know their motivations for that - which could have been manifold. Some perhaps participated out of pure curiosity, others out of a seriously felt commitment to the Zapatista movement or out of entirely different reasons. Because of the negligible threshold for participation one can only be sure about the conscientiousness of the initiators. This issue of the participatory threshold will be addressed in-depth in the discussion chapter.

Of interest is furthermore the communicative aspect of the action which can be divided in means of communication and modes of communication. Means of communication in this context refers to the words, images, body language, etc. the protester uses to communicate with the other party. Brownlee writes that the protester must “consider whether the means that she uses to communicate her message are likely to foster that understanding.” (Brownlee 2004, 343) Since the campaign websites were publicly available and the Electronic Disturbance Theater communicated their intentions quite clearly together with their reasoning, one could argue that the means of communication were adequate in this case. Yet what about the actual Distributed Denial-of-Service attack? During the time of the attack there was no possibility to communicate - in fact the key characteristic of a DDoS attack is that it stops any kind of communication. In this regard it is quite questionable if DDoS attacks are a means of communication at all since these attacks essentially negate communication. Proponents of DDoS attacks as a form of civil disobedience could state that the protesters drown the target in a cacophony of voices. But what actually happens is a form of pseudo-communication - the server of the website gets so many requests for communication that the server breaks down. Thus no kind of communication takes place. This form of pseudo-communication might pose a barrier in the transfer of classical civil disobedience to cyberspace and will be further considered in the subsequent chapter.
What about the modes of communication? Brownlee states that the dissident “must consider what impact her mode or manner of communication has upon the hearer. Some modes of communication relevant to civil disobedience include: coercion, violence, publicity, collective action and direct or indirect action.” (Brownlee 2004, 343) Since speaker and hearer do not physically meet each other there cannot be any form of violence against persons. That is one of the key arguments of the Critical Art Ensemble in favor of so-called 'electronic' civil disobedience, who state that it “is a nonviolent activity by its very nature, since the oppositional forces never physically confront one another.” (Critical Art Ensemble 1996, 18) Thus there might only be violence against government or private property. The resulting down-time of a website or service and the possible financial loss because of this disruption might be seen as a form of violence against private, government or military property. Calabrese writes in this regard that “in either cyberspace or the real world, destruction of corporate or government property, including capital equipment, may be based on very rational grounds, reflecting opposition to the destruction of a way of life in all of its complexity, ... Regardless of one’s views of these practices, in most cases, they cannot be simply dismissed as random, wanton or meaningless, but instead they are often clearly motivated and highly symbolic acts of political communication.” (Calabrese 2004, 335) This way the violence of DDoS attacks might be comparable to that of the three nuns who painted crosses on the nuclear missile silos – a symbolic act of political communication. Brian Huschle makes the point that the distinction if an action is violent or non-violent ultimately rests on the person’s disposition – if the intention is to harm or to be heard. (Huschle 2002, 76) Yet the aspect of violence must be linked to that of proportionality. Again comparing DDoS attacks in this regard to the violent act of the nuns one must assess that three nuns in the real world only have so much capacity to act violently and destroy property. In the Internet this proportionality might not be true since a few tech-savvy 'hacktivists' can cause huge financial losses. Coming back to the Zapatistas there seemed to be only minor financial losses involved, since both the website of the Pentagon and the website of Frankfurt Stock Exchange thwarted the attacks and experienced no down-time or disruption of services. (McKay 1998)

Another mode of communication in the framework is publicity. The members of the Electronic Disturbance Theater did not act anonymously – all their identities can be found on their website. Furthermore the FloodNet software that they used to conduct the DDoS attacks does not obfuscate the identity of its users. Subsequently if the participant did not take any measures to hide her identity one might theoretically be able to track down the individual protesters. (Wray 1999a, 6) Nonetheless, how can this type of publicity be
compared to that of typical civilly disobedient acts, like sit-ins? Some argue that it is of entire different nature. Joshua McLaurin argues that “hidden behind individual computer screens, even well-meaning dissidents who voluntarily pit their computing resources against the most notorious targets are at best participating in a shallow gesture. The relative or actual anonymity that participants enjoy in large-scale DoS attacks de-personalizes their message, requires much less commitment, and thus evidences much less conviction than a public act of disobedience in which an individual must take responsibility for her actions and face possible criminal punishment.” (McLaurin 2011, 245) Huschle proposes that society has to transform its understanding of publicity. According to him it serves the purpose of publicity if hacktivists act under their real names and make sure that they are traceable. (Huschle 2002, 78) Yet it seems that neither McLaurin’s nor Huschle’s position really identifies the problem of publicity in DDoS attacks. On the one hand all participants of the Zapatista DDoS might be identifiable but on the other hand they were not publicly present. Thus one has to consider publicity in combination with the before mentioned issues of low participatory threshold, remoteness and take into account that other actors also utilize DDoS attacks for different purposes. The cases of classical civil disobedience from the first chapter, especially the Greensboro protests and the Occupy Wall Street protests had as the most important characteristic the presence of the people – African-American students sitting at a counter and young protesters occupying a park and the streets. With the presence came naturally publicity. But what happens if there is no presence? Can there be presence in cyberspace? Again, this seems to be a barrier in the transfer of civil disobedience to cyberspace.

The last modes of communication that need to be assessed are those of indirect and collective action and the question if both are appropriate. DDoS attacks are obviously collective – at least ideally. They are also indirect since the laws that are being broken (if any) are different from the ones that the protesters oppose. The justifiability of indirect civil disobedience has been questioned in the past by many scholars. Nonetheless the dominant position today is that indirect civil disobedience can very well be justifiable and sometimes even preferable to direct action. But Brownlee cautions that, “since persons who use indirect civil disobedience ceteris paribus have no objective intrinsic reasons to breach the law that they breach, the justification for their act of disobedience must turn on subjective intrinsic reasons of moral consistency and self-respect to make their protest known, objective reasons to protest in some way against an objectionable policy, and instrumental reasons favouring indirect action in this case over direct action.” (Brownlee 2006, 184) Whether or not someone engages in direct or indirect action should depend on the estimation which type of action causes less harm and is more likely to result in the desired recognition by society and government.
In a case where indirect civil disobedience would be either misconstrued or viewed in isolation from the law or policy opposed, then direct disobedience, assuming it meets certain moral standards ...may have greater justification.” (ibid.) In the example of the Zapatista DDoS attacks this means that the choice of targets and the technique of DDoS attacks should be considered. Regarding the choice of targets the official Electronic Disturbance Theater website declares that both the Mexican President’s website and the Pentagon’s website are “obvious choices”, the latter “given the level of U.S. military and intelligence involvement in Mexico.” Targeting the Frankfurt Stock Exchange in Germany “makes sense as it is a key European financial site with high symbolic value and as Germany is a major player in the global neoliberal economy.” (EDC 1998) Particularly the latter choice seems like a stretch if the aim is to support the Zapatista movement in their struggle against domination and exploitation by the Mexican government. In contrast to that the Occupy Wall Street protests were also indirect but the location and the sit-ins were of high symbolic value. The Zucotti Park was once called “Liberty Park” and directly between Wall Street and World Trade Center. (Schneider 2011) Jeffrey S. Juris writes about the advantages and symbolic values of the tent-cities that “occupying space and provoking conflict to garner media attention and inspire participation, making visible the disproportionate influence of monied interests, and creating a symbolic contrast between the concerns of the powerful and those of everyone else.” (Juris 2012, 268) In comparison to that the DDoS attacks against the mentioned websites seem random and disconnected from the actual struggle of the Zapatistas. This leads to questions of socio-political domination and implications of hegemony – who speaks for whom in an online protest? These questions will be further discussed in the following chapter.

Now these different threads have to be tied together. As has been stated by Brownlee, “conscientiousness and communication of civil disobedience are linked to certain aims. One is the aim to demonstrate protest against a law; another is the aim to bring about a change in the law. The sincerity of these aims (the second in particular) is reflected in the mode of civilly disobedient communication that a person adopts: aiming not to coerce, but to persuade lawmakers and the public of the need to revise a law or policy is a mode of communication that demonstrates conscientiousness.” (Brownlee 2004, 350) How sincere are the aims of the Electronic Disturbance Theater – to help the Zapatista movement – in the light of the chosen means and modes of communication?

Going back to the start, one can reasonably assess that the members of the Electronic Disturbance Theater acted conscientiously with sincere motives and serious beliefs. Yet the
same cannot be reasonably assumed for the countless online participants. The chosen means of communication are in part questionable since DDoS attacks essentially negate communication. Furthermore they had to expect that the “hearer” does not stay receptive – meaning that both, the Pentagon and the Frankfurt Stock Exchange thwarted the DDoS attack. Looking at the modes of communication, violence seems at first glance like a non-issue in this example. Publicity is not clear since only the members of the Electronic Disturbance Theater took personal responsibility – not the thousands of participants online. One in fact does not know how many protesters were actually involved. The choice of the means and modes of communication thus leads to serious doubts about the conscientiousness of the aim to engage in a moral dialogue. Hence although looking at different aspects of the DDoS attack of the Electronic Disturbance Theater individually does not necessarily rule out the possibility of a valid act of civil disobedience, yet the same is not true for the aim of the action as a whole. With this the example of the Zapatista DDoS attacks cannot be seen as civil disobedience online.

B Anonymous’ Operation Payback

The next case is Operation Payback from the hacker collective Anonymous. The reason for examining this case is that, in contrast to the DDoS attacks by the Electronic Disturbance Theater in support of the Zapatista movement, Operation Payback did not target government entities but instead private companies and institutions. Furthermore the structure of Anonymous is quite different compared to that of the Electronic Disturbance Theater. Although Operation Payback went on for months and changed its targets and reasons quite a bit it all started in September 2010 when members of Anonymous found out through the news that the Indian company Aiplex uses DDoS attacks against websites hosting copyrighted movies and are not responding to take-down requests by Aiplex. Working mainly together with Bollywood film studios Aiplex has also been hired by Hollywood studios. (Grubb 2010) Anonymous stated that their DDoS attacks are in retaliation of Aiplex’s supposed attacks against the public BitTorrent tracker website The Pirate Bay. The collective intended to first attack Aiplex but the website had already single-handedly been taken down by another Anonymous member. Hence they switched gears and coordinated attacks against the Motion Picture Association of America (MPAA) and the Record Industry Association of America (RIAA). (Correll 2010) Similarly to the DDoS attacks in the

1 A BitTorrent tracker is a website that hosts links to any kind of files in a BitTorrent file-sharing network and is thus the only critical central infrastructure for the distribution of these files. The Pirate Bay is the largest BitTorrent tracker.
Zapatista movement, Anonymous published information about how to participate in these attacks through different websites, IRC channels and message boards – most importantly their “origin” 4chan.org. Over the course of the following weeks many different private companies, institutions and associations were attacked by Anonymous. Amongst those were ACS:Law a “firm of solicitors being investigated by authorities over thousands of threatening letters to alleged unlawful filesharers” (Williams 2010) and the International Federation of the Phonographic Industry (IFPI). In total Anonymous supposedly attacked around 30 websites and was responsible for an accumulated downtime of almost 40 days. (Correll 2010) As can be read in the initial statement by Anonymous, the intent was to protest against present copyright law and copyright enforcement by law firms and the entertainment industry. (Anderson 2010) Although Operation Payback later focused on supporting WikiLeaks, in this thesis and case the focus lies on the initial action as described. Thus the question is if these DDoS attacks can be perceived as civil disobedience online?

Again utilizing the established framework from chapter one the first point of interest is the conscientiousness of Anonymous’ action. Is it reasonable to infer that Anonymous had serious and sincere believes about the immorality of these companies’ business practices? Was it thus in fact moral consistency that leads from conscientious disavowal to the communication of their beliefs?

The initial attack announcement states that “In the end, our DDoS efforts have been compared to waiting for a train. What do we have to do to be heard? To be taken seriously? Do we have to take to the streets, throwing molitovs [sic], raiding offices of those we oppose? Realize, you are forcing our hand by ignoring us. You forced us to DDoS when you ignored the people, ATTACKED the people, LIED TO THE PEOPLE! You are forcing us to take more drastic action as you ignore us, THE PEOPLE, now.” (Anonymous 2010) Another attack announcement from Anonymous against the Gallant Macmillan law firm states that “The people are tired or vultures like ACS:Law and Gallant Macmillan preying on us for profit feigned as justice... To make matters worse, they mock the people! They have belittled our previous efforts against ACS:Law in spite of our ability to deliver TRUE justice against them for their crimes! If they desire so much to be the successor to ACS:Law LET US MAKE THEM SO! ... Just as we forced ACS:Law to learn the hard way, and just as we will continue against all others that challenge us.” (Enigmax 2010)

Part of determining the seriousness and sincerity of a protester’s belief and disavowal of a law or practice is evaluating if there is “constancy, a degree of self-sacrifice, a willingness to take risks, a spontaneous response to opposition, and a capacity to defend the reasons for
engaging in the pursuit. Such marks of commitment reflect a person’s adherence to her own sincerely held beliefs about what she has reason to do.” (Brownlee 2004, 341) Looking at the language in the announcements made by Anonymous, it sounds at least to some extent more like retaliation, revenge and raging and less like “sincerely held beliefs”. Of course these announcements have to be taken with a pinch of salt since most of Anonymous’ communication takes place in IRC chats and message boards and thus one cannot judge their conscientiousness just based on these ‘official’ statements. Yet since Anonymous is infamous for many different actions – ranging from mere pranks to large scale protests against Scientology – it is actually quite hard to determine Anonymous’ sincerity in any particular action. Because of their playfulness and carnivalesque character one can never rule out that Anonymous just did it out of pure amusement. Gabriella Coleman put it best by observing, that “sometimes coy and playful, sometimes macabre and sinister, often all at once, Anonymous is still animated by a collective will toward mischief—toward ‘lulz.’.” (Coleman 2012) Hence the outcome is even more blurred than in the case of the Zapatista protests. One can hardly assess the degree of self-sacrifice or willingness to take risks (even despite the fact that many members of Anonymous had been arrested over the course of the last years) – let alone the sincerity of their actions. This is even truer for the protesters who participated in the DDoS attacks. Conscientiousness of their motivation and action might be true for the initiators and organizers but it seems like a stretch to say the same about all the participants. Thus, as has been mentioned before, the interrelations between participatory threshold, commitment and anonymity need to be investigated in-depth as they pose a problem for the seamless transfer of civil disobedience to cyberspace.

Next to consider are the means and modes of communication. The same paradox applies as for the Zapatista protests. Although Anonymous’ announced most of the attacks via different channels – thus using language and images to communicate – the actual protest negates communication. It is thus questionable if the means of communication are likely to foster the understanding of the ‘hearer’ – in this case the private companies.

Looking at the modes of communication one can describe the DDoS attack, just like the one from the Electronic Disturbance Theater, as public, non-violent, indirect, collective action. While indirectness and collectiveness are obvious and of no further concern, one can challenge the assumption that these attacks indeed were public and non-violent. In contrast to the DDoS attacks in the Zapatista protest Anonymous provides elaborate guides on how to obfuscate a protesters identity in these attacks. (Coleman and Ralph 2011) Indeed in the case of Anonymous the boundaries of our perception of “publicity” are being tested even more. On the one hand they take full responsibility for all the actions as the collective Anonymous, on the other hand although not impossible (Donohue 2012) it is still hard to identify
individuals inside the collective. This lies at the heart of the Anonymous collective, moniker, phenomenon, “Anonymous takes us to the heart of what it means to be an individual yet part of a collective; to reconfigure, camouflage, or misrepresent the most intimate index of all, one’s identity. To play at the boundaries of, transgress and even question the law. This is the promise and peril of Anonymous.” (Coleman and Ralph 2011) Also in contrast to the Zapatista protests one could assess that Anonymous’ indirect action was by and large non-violent but coercive. Considering the language of the attack announcements and the attack pattern – sometimes targeting companies that are just remotely involved and choosing targets based on their attitude toward Anonymous – it could be perceived as coercive action.

Andrew Calabrese, drawing on Katz’s notion of “social evil”, argues that “civil disobedience is, first and foremost, the public expression of the politics of shame.” (Calabrese 2004, 326) He elaborates that it can be dangerous to inform the public and protest openly about an injustice by exposing the perpetrator. In his view this takes a lot of courage and civil disobedience can essentially be understood as “acts of courage.” (ibid.) Following this logic, publicity and openness help the protesters to convince the majority of the sincerity and conscientiousness of their acts by illuminating it as a courageous act of protest. Additionally Bedau states that it is not only about the conscientiousness of the protester. He writes about the purpose of civil disobedience that “its purpose is to frustrate and then change the law itself, by making an appeal to conscience, the conscience of the authorities and especially the conscience of the majority of the public – the conscience, in short, of whoever it is that issues, enforces, and supports the law being broken.” (Bedau 1991, 6) And goes on by stating that “civil disobedience thus conceived must be viewed as an exercise in public moral education ... But no such appeal to the public conscience can be made unless the illegal conduct is done openly, in the public forum, as a political act.” (ibid. 7) John Rawls also emphasizes that “to be completely open and nonviolent is to give bond of one’s sincerity, for it is not easy to convince another that one’s acts are conscientious, or even to be sure of this before oneself.” (Rawls 1973, 367) Although both might over-emphasize the importance of openness and publicity, as others have pointed out, the point they try to make still needs to be considered. Protesters have very well the responsibility to convince the public of their sincerity and seriousness. Brownlee states that the aim of the chosen means and modes of communication should be to engage “policymakers in a moral dialogue.” (Brownlee 2004, 347) Considering the means and modes of Anonymous’ action the aim did not seem to be to start a moral dialogue – let alone ‘public moral education’ in Bedau’s sense.

That the focus did not lie on engaging in a dialogue becomes even more evident when considering Anonymous’ reaction to a plea from the American and British Pirate Party. In November 2010 both the UK and US Pirate Party published an open letter to Anonymous to
stop the DDoS attacks. “We, the undersigned, call upon you to immediately cease the Distributed Denial-of-Service (DDoS) attacks and to instead seek out a legal method to express your frustration and disquiet with the copyright industry, and their perversions of copyright law for personal gain,” reads part of the letter. (Enigmax 2010b) Yet the Anonymous collective distanced themselves from the Pirate Party and stated that they will continue Operation Payback until they “come up with more efficient ways to better achieve our common goals.” (Brown 2010)

In the end, although Anonymous gathered vast amounts of media attention through Operation Payback the action lacked many important features of civil disobedience. Starting with a questionable display of conscientiousness of their beliefs and followed by means and modes of communication that did not aim to engage in a moral dialogue with decision makers but might rather be perceived as vengeance, rage and retaliation. Furthermore part of the action was coercive in nature which impedes chances for lasting change. In sum this leads to the conclusion that their actions do not constitute a valid form of civil disobedience online.

**B Electrohippies against WTO**

The last example is that of the British-based hacker group Electrohippies who organized and coordinated DDoS attacks against the World Trade Organization during the summit meeting in winter 1999 in Seattle, USA. (Radcliff 2000) The street protests against the summit meeting of the World Trade Organization in Seattle are well known and got a lot of media attention. Castells writes, that “the shutting down of the meeting of the World Trade Organization in Seattle on November 30, 1999, as a result of the action of tens of thousands of demonstrators, signaled the coming of age of a major social movement that opposes, on a global scale, the values and interests shaping the current globalization process.” (Castells 2004, 145) Jordan and Taylor perceive the street protests and direct actions in Seattle as “a key event in the late twentieth century anti-globalisation movement.” (Jordan and Taylor 2004, 74) Furthermore they state, that “the virtual direct action that coincided with the Seattle street protests operated perfectly in tune with those protests.” (ibid.) The Electrohippies claimed that over the period of 5 days around 450,000 participants joined the DDoS attack against three different servers of the World Trade Organization. (Goldstein 2010) Similar to the DDoS attacks from the Electronic Disturbance Theater and Anonymous, the Electrohippies spread information online through various channels to gather participants for their collective action. The difference between the WTO DDoS attacks and the before mentioned two examples is that this DDoS attack was synchronized
with the offline protests and targeted at a specific institution. “In both cases, the overall aim was to prevent the conference, in order to prevent the most visible global neo-liberal organising institution from functioning.” (Jordan and Taylor 2004, 75) Furthermore it was directed at a supra-national institution and what this institution stands for and not, as the previous examples, against either a nation state or private companies. In this regard the scope of the protests in Seattle might be roughly comparable to that of the Occupy Wall Street protests. Again the question is, if the DDoS attacks in this specific case could constitute a valid form of civil disobedience online.

In a paper released by the Electrohippies they state that their “method [of DDoS attacks] has built within it the guarantee of democratic accountability.” (DJNZ 2001, 3) They further elaborate that “the acts or views perpetrated by the targets of a DoS action must be reprehensible to many in society at large, and not just to a small group. It is on this basis that the collective undertook the action against the WTO during their conference in Seattle, and it is also the basis upon which we are planning future actions.” (ibid. 7) They additionally incorporated a strict guideline for the usage of their DDoS tool. Paul Mobbs, co-founder of the Electrohippies group, said in an interview, “if you want to be effective, it's more justifiable to disrupt a server for one day and make your point, rather than dragging the action on for a few days and cause more generalized disruption.” (Cassel 2000) Additionally in another statement Mobbs said, “Today we can use the power of that system for people all over the world to join together and protest about the insane policies being developed by the political elite and global corporations.” (BBC News 1999) In combination these proclamations show at least to some extent a conscientious belief in the cause – disavowal of what the World Trade Organization stands for – and a seriousness and sincerity about the chosen collective action.

In contrast to Anonymous’ Operation Payback the indirect collective action organized by the Electrohippies was in synchronization with the street protests. Thus the question of whether or not the choice of the means of communication was reasonable only applies to a lesser extent, since other actions were already in play. Furthermore because of this the risk that indirect action is not seen in connection by the public with the law, policy or practice the protester opposes is also attenuated. As Brownlee writes, “in a case where indirect civil disobedience would be either misconstrued or viewed in isolation from the law or policy opposed, then direct disobedience, assuming it meets certain moral standards (which are determined by the content of the law opposed), may have greater justification.” (Brownlee 2006, 184) Hence by taking place at the same time as the street protests, Electrohippies’
DDoS attack might be perceived as significantly more justifiable by the public, since it is seen as just another action in the repertoire. This would be supported by the before mentioned statement that the goal was to stop the WTO from communicating and functioning over the course of the summit.

Regarding the modes of communication – non-violent, public, indirect, collective action – of interest are again mainly non-violence and publicity. While the feature of non-violence still has the same implications as in the other two examples, namely the interrelation between proportionality and violence in cyber space, the Electrohippies' attack can be seen as much more 'public' than those of Anonymous' Operation Payback. Why? The British-based hacker group published guidelines together with their DDoS software, emphasizing that “The users of the tool must identify themselves – in a way traceable by law enforcement authorities... The users of the tool must include within the tool details about the motives of their group in promoting the action.” (DJNZ/Electrohippies 2001, 9) Assuming that the participants followed these instructions it would at least theoretically result in a higher level of “non-anonymity”. However this still does not solve the problem of remoteness and presence in cyberspace, as mentioned before.

In total the conscientiousness of the Electrohippies and the chosen means and modes of communication might illuminate the sincerity of their aims to protest against immoral practices and “to persuade lawmakers and the public of the need to revise a law or policy.” (Brownlee 2004, 350) Yet one may not forget that this depends heavily on the framing that these DDoS attacks were just another action in the repertoire of the protesters. Hence one would have to compare it with classical acts of civil disobedience on the streets of Seattle, which in return throws one back to questions of proportionality, commitment, participatory threshold and technolibertarianism. It seems that it is not as easy as Klang states by concluding, that “the criteria of disobedience and justification are easily met in online environments and do not conflict with traditional theory.” (Klang 2008, 11) Ultimately one has to assess that even though the Electrohippies went to great lengths to transfer classical civil disobedience to cyberspace, at the end of the day the logic of the Internet might pose an insurmountable barrier for civil disobedience to occur online – at least in the form of DDoS attacks.

**Summary**

In all three examples the DDoS attacks as a form of online protest were not able to constitute a valid form of civil disobedience online. Although conscientiousness of the organizers can be safely assumed in at least two cases, the means and modes of communication were always...
questionable in pursuing the aim to engage society and lawmakers in a moral dialogue for lasting change. Throughout this chapter and its cases one can identify a pattern where the logic of the Internet poses a severe barrier for the seamless transfer of civil disobedience from the 'offline world' to cyberspace. First, the perception of publicity of the actions is challenged by remoteness of the online participants and the resulting de facto-anonymity. Second, the notion of non-violence needs to be reconsidered because of disproportionality in cyberspace. Third, because of low participatory threshold and the potentially low commitment in DDoS attacks sincerity, seriousness and conscientiousness of the participants might be questioned. Fourth, since the logic of the Internet crosses nation state borders one has to question who protests for whom? (Like in the example of the Zapatista protests) Fifth, the inimitability of a civilly disobedient act like a sit-in seems to be broken in cyberspace, if nothing else because a plethora of different actors is able to utilize DDoS attacks for countless purposes. Sixth, DDoS attacks essentially negate communication and thus could constitute a fundamentally flawed means of communication in a civilly disobedient act. These critical issues that concern the logic of the Internet and the transfer of civil disobedience to cyberspace will be discussed in the subsequent chapter. In the end although every group or collective, be it the Electronic Disturbance Theater, Anonymous or the Electrohippies, claimed that their technique is essentially the virtual pendant to a sit-in and constitutes civil disobedience online, in reality every action lacked several key features of civil disobedience.

Discussion of DDoS Attacks

The previous chapter demonstrated that in none of the three cases the DDoS attacks can be seen as a valid form of civil disobedience online. Furthermore certain critical issues reoccurred in all the examples, suggesting fundamental problems in the transfer of civil disobedience to cyberspace. This chapter will analyze these issues in detail to illuminate elementary flaws in the idea to utilize DDoS attacks as civil disobedience online. For that purpose the six previously identified issues will be connected to four overarching themes – individual presence, inimitability of occupying space, free speech and western imperialism.

Individual Presence

The Greensboro sit-ins and the Occupy Wall Street protests were both public and open. Although the three nuns in Denver acted in secrecy, after they had been arrested they shared their intentions, beliefs and motivation with the public. In both cases it is rather easy to
identify publicity or secrecy as a mode of communication. This publicity helps the protester, as Rawls has argued, to demonstrate her sincerity and conscientiousness to society. The first chapter illuminated the close connection between conscientiousness and publicity as a mode of communication that aims to engage the opponent in a moral dialogue. Especially in sit-ins - collective actions that occupy physical space - the importance and force of publicity becomes apparent. In sit-ins publicity is directly connected with commitment, dedication, seriousness and sincerity. The latter are exactly the characteristics that were hard to assess in the three cases of DDoS. With the remoteness through cyberspace came uncertainty about the commitment, the dedication, seriousness and sincerity of the protesters' beliefs. Why is that the case? What is the reason that these aspects seem to come naturally to civilly disobedient acts in the 'offline world' and their absence is immediately felt in the cases of DDoS attacks? Physical presence. Jordan and Taylor describe the loss of the physical presence in cyberspace from the protesters' perspective and argue, that “the loss of physicality in cyberspace means a loss of so many parts of a demonstration: sights, sounds, smells and the elation or depression that can follow when it becomes clear just how many people have come together to protest... The epic qualities of the best demonstrations, both in terms of size and drama, are lost in cyberspace.” (Jordan and Taylor 2004, 80) Although this might seem like a romantic account of what it means to protest in the streets one simply cannot overestimate the importance of physical presence in an act of civil disobedience - specifically sit-ins. Observing the street protests in Seattle against the WTO summit meeting in 1999, Smith writes, “Participation in protests, moreover, serves to motivate and encourage movement sympathizers and adherents, as the act of protesting creates and nurtures activist identities by dramatizing conflict and polarizing identities in “us versus them” terms. It can generate new levels of commitment on the part of activists.” (Smith 2001, 11) Through her physical presence the protester furthermore ensures that “everyone can see who is participating in the sit-in. In this important respect, traditional acts of civil disobedience are public.” (Huschle 2002, 78) This connects seamlessly with Rawls argument that publicity is expression of one's sincerity, “for it is not easy to convince another that one's acts are conscientious, or even to be sure of this before oneself.” (Rawls 1973, 367) Going even further back to Martin Luther King, Jr. he perceives a sit-in as “direct action, whereby we would present our very bodies as a means of laying our case before the conscience of the local and the national community.” (King 1963) But it is also so much more than just “presenting the bodies”, because what automatically happens through the occupation of space is the emergence of a form and sense of community - especially in sit-ins that stretch over a longer period of time. Jeffrey Juris writes in his reflections on the Occupy Movement that the occupation of physical space serves a myriad of purposes. “These might be summarized in
terms of their tactical role—occupying space and provoking conflict to garner media attention and inspire participation, making visible the disproportionate influence of monied interests, and creating a symbolic contrast between the concerns of the powerful and those of everyone else; their incubating role—providing a space for grassroots participatory democracy, ritual and community building, strategizing and action planning, public education, and prefiguring alternative worlds that embody movement visions; and their infrastructural role—facilitating ongoing interaction, collaboration, and networking, establishing a point of contact between occupiers and interested members of the public, and furnishing concrete spaces for meetings and activities. Occupiers thus came to realize the vital importance of space.” (Juris 2012, 268) One can easily recognize that the simple fact of sitting down and occupying space with a tent is at the same time a specific feature of civil disobedience and its vantage point from which further action evolves.

Of course the loss of the need for physical presence opens up a lot of possibilities and potential. Stefan Wray from the Electronic Disturbance Theater wrote enthusiastically that everybody “can participate in virtual blockades and sit-ins from home, from work, from the university, or from other points of access to the Net.” (Wray 1999a, 5) A lot of research has shown that online communities can benefit from this remoteness as the members tend to focus more on the collective than individual identity. (Postmes and Brunsting 2002, 295) Dahlberg furthermore argues that “the Internet supports online and offline counter-public contestation of dominant discourses, and hence the contestation of the deliberations of the mainstream public sphere.” (Dahlberg 2007, 56) Indeed one could easily go on about how the open network structure of the Internet capacitates ‘netizens’ to organize themselves in forms of counter-public spheres. However civil disobedience is a specific type of political action that has to embrace certain key features in order to be effective. In fact Habermas perceives civil disobedience as “a challenge to the existing order.” (Thomassen 2010, 130) John Rawls argues that “since civil disobedience is a last resort, we should be sure that it is necessary.” (Rawls 1973, 373) Quill sees the power of civil disobedience in its ability to “rupture of the fabric of social and political reality, thereby opening a space for new political possibilities.” (Quill 2009, 23) Huschle put it best by pointing out that “the power of civil disobedience lies on the fine line it walks between activism and revolution.” (Huschle 2002, 73) And he cautions that “if this delicate balance is not maintained, the agent looses both the power to demand immediate change and the respectability of the ‘moral high ground’.” (ibid.) Hence it is understandable that the Electrohippies and the Electronic Disturbance Theater tried to account for this loss of physical presence. Ricardo Dominguez, co-founder of the Electronic Disturbance Theater, said they are trying to create “the unbearable weight
of human beings in a digital way.” (Meikle 2002, 142) The Electrohippies tried to bring “community accountability to the Internet.” (DJNZ/Electrohippies 2001, 9) In a later article, Graham Meikle argued, that a “virtual sit-in enacts a simulation of a real-life physical gathering... they should be recognised as manifestations not of coercive violence or force, but of symbolic power.” (Meikle 2008, 19) And yet the DDoS attacks struggle with many problems, if one perceives them as virtual sit-ins and most of these problems originate from the loss of physical presence. Why?

The prior statements about street protests and sit-ins showed how physical presence is connected to commitment, motivation, community building and many more aspects for the protesters. The same is also true for the general public that observes the protests and sit-ins. In acts of civil disobedience society has a need to judge the dissenters conscientiousness and sincerity and for this physical presence is beneficial. In this regard physical presence is closely linked to commitment and determination because it leads to clues about seriousness. It surely is a difference if one sits five days in front of the World Trade Organization to occupy space than to engage for five days in a DDoS attack – in the first case the general public sees one’s commitment and may infer from that the protesters seriousness. Physical presence is furthermore closely related to proportionality and accountability – features the Electrohippies focused on. 200 protesters sitting in front of the WTO seems like a less urging and important matter than 20.000 that also occupy streets and parks. But, perhaps most importantly, physical presence makes sure that society realizes that there are protests in the first place. And it naturally opens up possibilities to engage with the protesters – be that as a bystander, reporter or law enforcement. Granted, even in the 'offline world' that is not always the case – it would have been practically impossible to interact with the three nuns in the middle of the night on military grounds. Yet proponents of DDoS attacks compare their actions to sit-ins and these exhibit all the before mentioned characteristics that originate from physical presence. Andrew Calabrese argues, that “civil disobedience need not be done by many people at once in order to qualify as such, but the scale of “disobedience” that occurs when a vital Web site is disabled by a few clever hacktivists raises questions about the fidelity of translation from real space to cyberspace. And by remaining anonymous, the public dimension of their action is limited because, unlike civil disobedients, they did not stand with the courage of their convictions, and thus they may have done harm to the cause they claim to represent.” (Calabrese 2004, 332) Hence the lack of individual presence leads to questions about proportionality and because of that seriousness and conscientiousness are automatically questioned, too.
Thus the argument is that the most important reason why DDoS attacks cannot be perceived as civil disobedience online – let alone virtual sit-ins – is that the technique lacks any form of presence of the individual. But this ‘presence of the individual’ is extremely important for an act of civil disobedience and is much more than mere accountability. Physical presence naturally leads to indications about commitment, sincerity, seriousness and proportionality. DDoS attacks lack such a form of individual presence (it does not necessarily need to be physical presence) and thus struggle with exactly those features that are elementary in order for civil disobedience to unfold its power. In the case of civil disobedience online Jordan and Taylor speak of “alienated civil disobedience”. “We might ask: What use is an online mass action? Who knows it has occurred? Are not some of the most powerful uses of mass demonstrations – the sense of being on the march with so many others – simply absent online? There are no bystanders in cyberspace, nor can you see the people you are marching with... Mass action hacktivism might, in this way, simply be inventing alienated civil disobedience, while simultaneously refusing the powers cyberspace does offer.” (Jordan and Taylor 2004, 168)

B Inimitability of Occupying Space

Because of the previously mentioned aspect of de facto non-violence and the fact that – at least in theory – one needs many participants for a successful DDoS attack, various proponents argued that DDoS attacks are essentially “virtual sit-ins”. Yochai Benkler, Co-Director of the Berkman Center for Internet and Society at Harvard University, argued that “by design, these [DDoS attacks] are sit-ins: Participants illegally occupy the space of their target.” (Benkler 2012) Both, the Critical Art Ensemble and the Electronic Disturbance Theater also focus on the aspect of non-violently occupying space online. (Wray 1999a) Richard Stallman, founder of the Free Software Foundation, compares DDoS attackers to protesters who “enter through the site’s front door, and it just can’t cope with the volume.” (Stallman 2010) Hence many of the DDoS proponents focus on the supposed similarity between occupying space and occupying a website. But in what way are these two actions actually comparable?

The previous section demonstrated that DDoS attacks lack a form of individual presence in cyberspace – regardless of how traceable the attackers are. This provides the first lead that there may be a problem with the analogy between occupying space online and offline. The second lead can be found when analyzing what happens at a sit-in. Jeffrey Juris wrote about the tent cities of Occupy Everywhere in Boston and how these grounds were vantage point for so many different activities and with such high symbolic value. (Juris 2012, 268) Others have
been mentioned that talked about the sense of community in a sit-in and how it affects the commitment and determination of participants. (Smith 2001) It has furthermore been argued how important it is for society to simply see the protesters and be able to form an opinion about their conscientiousness and sincerity. (Huschle 2002) But what has gone so far unnoticed is the simple fact that the natural act of occupying space is unique to sit-ins. Protesters sitting in front of a building and blocking the entrance, waving banners and flags and perhaps chanting phrases can be immediately recognized as a sit-in – even without any banners, flags or songs. What about DDoS attacks in cyberspace?

One of the first quantitative studies of DDoS attacks found over 68,700 attacks on more than 5,300 companies over the course of 3 years – and that was almost a decade ago. (Moore et al. 2006, 116) A more recent study warns that “DDoS incidents are growing day by day but the technique to attack, botnet size, and attack traffic are also attaining new heights.” (Kaur and Sachdeva 2013, 335) One of the problems to investigate and understand the threat of DDoS attacks is the fact that “the DDoS field contains a multitude of attack and defense mechanisms, which obscures a global view of the DDoS problem.” (Mirkovic and Reiher 2004, 51) Drawing on the categorization discussed by Moore et al. (2006) one can roughly identify three different kinds of actors and motives. Next to political protesters there are authoritarian governments who censor human rights and independent media websites through DDoS attacks against those servers. Lastly organized cyber crime circles utilize DDoS attacks for financial gains.

Authoritarian Governments. While there are a lot of suspicions about DDoS attacks carried out by governments there is little actual data or evidence about specific cases. The most comprehensive study of DDoS attacks against human rights and independent media websites was conducted by the Berkman Center for Internet & Society at Harvard University. (Zuckerman et al. 2010) Their research was based on interviews, surveys and working meetings with administrators of independent media and human rights websites with a focus on China, Russia, Iran, Kazakhstan, Uzbekistan, Egypt, Tunisia, Vietnam, and Burma. (ibid. 25) During the interviews most of the administrators made it very clear that the “national government of the country was ultimately responsible for the attacks.” (ibid. 41) And although DDoS attacks are not the biggest problem for these websites – compared to defacement and offline persecution – the report concludes that there is a “rise of DDoS as a technique for silencing human rights and independent media sites.” (Zuckerman et al. 2010, 57) More recently, the “Hong Kong-based citizen media platform inmediahk.net” was apparently attacked by the Chinese government after continuously reporting about dock
worker strikes. (Lam 2013) Another more definite case is the 2007 DDoS attack against Estonian infrastructure. Which at that time lead to a hot debate about “cyber warfare” and how nation states can defend themselves. (Goth 2007) Two years later Russian officials admitted involvement in these cyber attacks. (Miller 2009) As has been mentioned by the Berkman Center report governments supposedly utilize DDoS attacks to target websites of the political opposition during elections, to render human rights websites unavailable and to censor independent media. Yet often one can only guess if the source of the attack is a government unit or rather a political or ideological sympathizer who acts autonomously.

Cyber Crime. Of an entirely different breed are DDoS attacks with financial interests which - most of the time - can be seen as part of organized cyber crime. During September 2012 several US banks have been targeted by DDoS attacks. The Bank of America, JP Morgan Chase, Wells Fargo, US Bancorp, Citigroup and PNC Bank were amongst the victims. (Goodin 2012) What sets those attacks apart from DDoS attacks done by hacktivists – at least from a technical perspective – is the attack pattern. “Typical hacktivist DDoS attacks wield bandwidth in the range of 1Gbps² to 4Gbps, far less than the 60Gbps torrents seen in these attacks.” (ibid.) Since at least a decade ago DDoS attacks have been used for “either extortionate reasons, or to disable or impair the competition.” (Poulsen 2004) Another, more recent, event were the DDoS attacks against the online Bitcoin³ trader Mt.Gox. The company guessed that these attacks had financial motives. “Attackers wait until the price of Bitcoins reaches a certain value, sell, destabilize the exchange, wait for everybody to panic-sell their Bitcoins, wait for the price to drop to a certain amount, then stop the attack and start buying as much as they can. Repeat this two or three times like we saw over the past few days and they profit.” (Mt.Gox 2013) Also during March this year the Swiss non-profit anti-spam organization Spamhaus⁴ got targeted by a massive large-scale DDoS attack. With more than 300Gbps this has been the largest DDoS attack in the history of the Internet. (Bright 2013) Alleged attacker was a collective that calls themselves “STO Phaus” and supposedly consists of many different spam companies – loosely affiliated with Dutch hosting company CyberBunker. (ibid.) The attack went on for several days and attacked at some point an

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² ‘Gigabits per second’ (Gbps) measure the amount of data that flows through a network per second. In the case of DDoS attacks it is an indicator for the seriousness and thus the scale of the attack.
³ Bitcoin is a virtual currency that is traded online. The exchange rate reached extreme heights early 2013.
⁴ The team of Spamhaus searches the Internet for spammers and publishes a list with their Internet server addresses. This blacklist can be implemented by any administrator and is said to block around 80% of all the spam. (Prince 2013)
Internet Exchange\(^5\) (IX) and thus caused severe collateral damage. (Prince 2013b) Because the attackers changed their strategy and did not attack Spamhaus directly anymore but instead focused on the disruption of the Internet Exchange some talked about an attack of “Internet-threatening size”. (Bright 2013b) A 2011 report from the American Internet Crime Complaint Center\(^6\) stated that DDoS attacks “in general are on the rise” and goes on that “gaming sites in particular have come under attack by multiple hacking groups.” (IC3 2011) This is supported by an annual report from Arbor Networks - a company that specializes in mitigating DDoS attacks. According to Arbor Network’s survey data DDoS attacks became more complex and targeted with a focus on gaming websites, e-commerce platforms and cloud services. (Leyden 2013) Since some years ago everybody can rent DDoS services per hour and attack any website. As Brian Krebs notes, “hackers are openly competing to offer services that can take out a rival online business or to settle a score.” (Krebs 2011) These examples and reports make it obvious that there is thriving, organized cybercrime based on botnets and DDoS attacks with clear financial motives. These kinds of attacks are apparently so common and serious that companies like CloudFlare, Prolexic or Arbor Networks exist, with the sole purpose to thwart those attacks for their customers. One wonders how the investigation of politically motivated DDoS attacks can lead to the conclusion, that “the threat of online crime has been greatly overstated and is founded upon a lack of understanding of the technology or even technophobia.” (Klang 2008, 11)

Why is it important to analyze the different actors who utilize DDoS attacks? These attacks pose a serious threat to many different organizations, companies and nation states. The attacker’s motivation can be political, out of fame and glory or monetary. Yet the outcome for the victim is most of the time the same - a virtual blackout probably accompanied by financial losses. In order to assess the potentials and benefits of DDoS attacks as a form of civil disobedience one has to understand the environment in which these “virtual sit-ins” take place. What became obvious through this section is, that DDoS attacks lack an inimitable feature in cyberspace. This leads to perhaps insurmountable problems. First and foremost the target does not and cannot distinguish between political protester and cyber criminal and just tries to defend the attack as quickly as possible. Secondly DDoS attacks conducted by circles of organized cyber crime are much more powerful since they have a financial incentive and more resources at their disposal. (Prince 2012) Both problems result

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5 An Internet Exchange is a point where different networks connect to each other. These are run as non-profit organizations.

6 The Internet Crime Complaint Center (IC3) is a partnership between the Federal Bureau of Investigation (FBI) and the National White Collar Crime Center (NW3C).
in the fact that DDoS attacks from protesters could become ineffective in the future since companies prepare themselves against attacks of much higher magnitude. Already now many researchers and security experts do not see DDoS attacks from protesters like Anonymous and others as a real threat and state that “such groups tend to target ‘low-hanging fruit,’ which while a nuisance - even at times illegal - is often only done because companies and government institutions are lax in instituting proper cyber security measures.” (Sheldon 2012, 11) But probable ineffectiveness is not the only problem. If DDoS attacks are treated as virtual sit-ins then protesters literally sit at the moment next to authoritarian governments and cyber criminals on the streets and all of them occupy space. But the protesters expect that society identifies them as sincere, conscientious citizens. This seems pretentious and destined to fail.

B Free Speech

It has been argued in the previous chapter that DDoS attacks as a means of communication essentially negate communication. Since the target server is buried in requests for communication, no communication takes in fact place. Additionally, since the goal is to ultimately break down the server DDoS opponents argue that these kinds of attacks impede the targets right to free speech. This is the reason why the hacker group Cult of the Dead Cow (cDc) condemns DDoS attacks, since they “are a violation of the First Amendment, and of the freedoms of expression and assembly. No rationale, even in the service of the highest ideals, makes them anything other than what they are -- illegal, unethical, and uncivil. One does not make a better point in a public forum by shouting down one’s opponent.” (Ruffin 2000) While proponents of DDoS attacks perceive them as an act of free speech (Leiderman 2013) they are decidedly not. Karanasiou concludes from a legal perspective, that “it would indeed be paradoxical to offer free speech protection to DDoS, which are ultimately acts of infringing a target’s right to free speech and communication... The fact that DDoS are proscribed acts of particularly aggressive nature combined to the threats incurred for free speech online would undercut the feasibility of granting them free speech protection.” (Karanasiou 2013, 29) McLaurin adds that “the pure transfer of information is not necessarily pure speech” (McLaurin 2011, 245) and wraps up that “DoS attacks are an underappreciated threat to speech, infrastructure, and the economy and that they serve as an example of the evolving means by which Internet users can employ otherwise benign technologies to do harm.” (ibid. 254) Thus the previously mentioned 'We the People' White House petition by Anonymous to recognize DDoS attacks as a valid form of protest – and thus protect them as free speech – is based on false, perhaps naïve assumptions. If these
attacks would be perceived as protests it would result in the justification of muzzling one's opponent to make your own voice heard. This is obviously diametrically opposed to the goal of civil disobedience to engage in a moral dialogue with society and lawmakers to bring about lasting change.

B Western Imperialism

Shortly after the Electronic Disturbance Theater coordinated DDoS attack in support of the Zapatista Movement in Mexico, Miguel García Ramírez, a member of the Mexican civil rights group AME LA PAZ wrote an open e-mail to the activists. (Ramírez 1998) In his letter Ramírez respects the DDoS attacks from the Electronic Disturbance Theater but also questions its usefulness and sees potential dangers for the movement. “Because this is what is important: Did somebody ask the Zapatistas or Marcos? Did somebody tell us “let’s encourage hackers and mail bombers”? Did somebody ask us, webmasters in Mexico that are dealing not one but various sites linked to the social movement, whether we considered such an action convenient? Did they consult it with anyone?... An action such as the one suggested had to be consulted both with the Zapatistas and the organizations that have sites from Mexico. Or perhaps, immersed in the colonial perception, we are considered unable babies?... We fly over the Chiapas sky, we walk on its roads at night, we supply them with a little help, we could die for operating a web page or in one of those roads. In fact, we have already been threatened to be killed; we continue working when you leave.” (ibid.)

Ramírez addresses a variety of issues in his letter. The most important one though is that of, perceived or actual, western imperialism. The activists that conducted the DDoS attack apparently never thought about that although DDoS attacks could be their way to help the Zapatistas, it does not necessarily mean that it actually helps the Zapatistas or if they even want it. Fidele Vlavo writes in this context that so called electronic civil disobedience “reproduces and reinforces political inequality and socio-cultural domination. The Eurocentric interpretations of the potential of digital technologies need to be reassessed within informed understandings of digital technology and socio-political activism worldwide.” (Vlavo 2012, 140) The socio-cultural domination can be perfectly seen in Ramírez’ remark that, “in the colonial perception, we are considered unable babies?” (Ramírez 1998) It is safe to assume that similar difficulties might be in play with different DDoS attacks from Anonymous against various Burmese government websites in support of Rohingya Muslims who are persecuted in Burma. (AnonNews 2012) It all boils down to the question of who protests for whom? Granted, this is not specific to DDoS attacks but digital
activism in general. And yet in the case of DDoS attacks it should be treated with much care since the technique is invasive and disruptive - much more than online petitions and campaigns. As Ramirez pointed out, using DDoS attacks against a foreign government in support of a persecuted minority in this country imposes one's own ideology directly on these people and their struggle. It lacks any kind of insight or empathy, even if done with best intentions. Vlavo warns that this kind of exclusive online protest is a “form of resistance, whereby global participants can select social movements online and ‘click to protest’ from the comfort of their secured environment, unaware of and unaffected by the possible outcomes of their virtual engagement. Ironically, the visions of so-called transnational solidarity and global mobilisation actually seem to deny, or minimise, the importance of local populations and their distinctive struggle.” (Vlavo 2012, 138) Closely related to the problem Vlavo describes is that of the ‘digital divide’. Almost a decade ago Chris Atton cautioned, that “the virtual protest is not the same as the physical protest. To transfer the tactics of the latter to the former is to ignore the digital dynamics of inequality of access and the new threats to democracy and human rights that have emerged (and continue to emerge) across the Internet.” (Atton 2004, 23)

Techno-libertarianism

The exclusive use of information technology for protesting raises questions about the perception of these technologies and techno-deterministic notions. Especially in the examples where DDoS attacks have been used to protest against complex socio-political issues - political persecution of indigenous people or their economic exploitation - one has to scrutinize the belief DDoS proponents have in the power of information technology. What Scottish philosopher Gordon Graham writes about technophiles seems to describe this mindset quite well, “the question of means is the dominant (even sole) consideration and the question of the value of ends to which they are the means is left to take care of itself.” (Graham 1999, 10) How does it help the Rohingya people if Anonymous’ members attack Burmese government servers? Zizek’s notion of ‘pseudo-activity’ comes to mind. He criticizes that “the threat today is not passivity but pseudo-activity, the urge to ‘be active’, to ‘participate,’ to mask the nothingness of what goes on. People intervene all the time, ‘do something’.” (Zizek 2008, 183) But DDoS attacks as a form of online protest are not only pseudo-activity but also techno-utopianism. At its core is the strong belief that technology can solve societal issues. In this way it is the perfect example of ‘slacktivism’ - “political activities that have no impact on real–life political outcomes, but only serve to increase the feel–good factor of the participants.” (S. H. Christensen 2011) Thus DDoS attacks as a form
of protest can be seen as the next step of the discourse of ‘liberation technology’ – the belief that “social networking technologies have been vital tools in the struggle for freedom” during the Arab Spring. (Christensen 2011, 234) If one is convinced that Twitter or Facebook made the struggles in the Middle East and other countries possible, then it is only logical to see DDoS attacks as a potent solution to protest online. Yet this only exposes the underlying rhetoric, that “digital technology is attributed a new redeeming function, usually disseminated through distorted narratives that promise new social order, fair economic growth and democratic political structures.” (Vlavo 2012, 126)

B Summary

The purpose of this chapter was to illuminate fundamental issues of DDoS attacks, as a form of civil disobedience online, following leads illuminated by the multi-dimensional framework of the previous chapter. The absence of any kind of individual presence and the lack of an inimitable feature are at the core of the argument against the use of DDoS as a form of protesting online. The first leads to uncertainty about commitment, sincerity, seriousness and ultimately conscientiousness. These come naturally to civilly disobedient acts in the ‘offline’ world but pose insurmountable problems for DDoS attacks in cyberspace – because of the lack of individual presence. This in turn makes it harder for society and lawmakers to form a favorable opinion about the protesters’ beliefs and disavowals. Connected to the classical framework of civil disobedience this allows the conclusion that DDoS attacks are an inappropriate means of communication since they do not support the aim to engage in a moral dialogue. The second fundamental issue is the lack of an inimitable feature. Neither the target of the attack nor society can identify these as politically motivated since the action utilizes the same technique as cyber crime circles and authoritarian governments. It is thus an ineffective means of communication since it cannot be distinguished from those of other actors. Lastly this form of online action impedes free speech itself by literally muzzling one’s opponent and thus has to be perceived as opposed to the ideals of civilly disobedient acts. Not exclusive to DDoS attacks but of relevancy are notions of western imperialism and techno-libertarianism. DDoS attacks are an invasive and disruptive technique and the Internet makes it possible to protest in another country for another one’s cause. This leads to the problem of imposing – most of the time western and libertarian – ideology upon the other and ignoring the distinctiveness of their struggle. Lastly a general critique was given by seeing DDoS attacks originating from a techno-utopian mindset and that it ultimately is a manifestation of the illusion that societal issues can be solved by the exclusive utilization of technology.
Limitations and Further Research

Herbert J. Storing wrote that “the most striking characteristic of civil disobedience is its irrelevance to the problems of today.” (Storing 1991, 85) One obvious limitation of this research is that it depends on the assumption that civil disobedience is of importance and that furthermore some sort of definition or framework is necessary to analyze and describe these acts of political protest. Throughout the second chapter the aim was not only to define or at least capture the spirit of the phenomenon but also to illuminate its importance for society. If one disagrees with that point the further analysis of DDoS attacks is indeed of little relevance. Nonetheless Storing has been proven wrong, if nothing else because of protests from global justice, anti-globalization and environmental movements during the last decade.

Another obvious limitation of this thesis is that it had to rely solely on second source data. It would be interesting to examine the different views of hackers and hacktivists regarding DDoS attacks as a form of protest. Apparently there are different opinions about that, as the statements from Cult of the Dead Cow and the Electrohippies illustrated. In this regard Molly Sauter’s, Research Assistant in Comparative Media Studies at the MIT Center for Civic Media (Sauter 2012), forthcoming research will be highly interesting. Sauter approaches the topic from an ethical perspective and gathered a lot of primary sources.

Further research should investigate other forms of civil disobedience online by extending existing definitions or frameworks with the two proposed features: ‘individual presence’ and inimitability of the action.

Conclusion

This journey started with a simple question. Are Distributed Denial-of-Service attacks a valid form of civil disobedience online? On this journey the discourse and the importance of civil disobedience were first illuminated. It has been demonstrated that civilly disobedient acts can play a vital role in our society, since they inhibit a special place between legal protest and revolutionary acts. It capacitates a minority to display how strongly they feel about a grievance and aims to engage lawmakers and society in a moral dialogue. But as always, with power comes responsibility and thus acts of civil disobedience need to embrace fundamental features to walk this fine line between legal protest and revolution. First and foremost society needs to see the protesters’ conscientiousness, sincerity and seriousness. It has been argued
that the chosen means and modes of communication should have the aim to engage in a
moral dialogue and that this in turn is an important indicator about the protesters sincerity.

Yet when analyzing and comparing classical acts of civil disobedience and DDoS attacks
online several things were amiss. Neither society nor lawmakers are able to see the protesters’
conscientiousness, sincerity or commitment since DDoS attacks focus solely on the
disruption of the information flow. What they are missing is that in order to work, civil
disobedience needs individual presence. Classical forms of civil disobedience – like sit-ins –
achieved that naturally through physical presence. This is not possible in cyberspace though
and although the ability to protest from a distance has been celebrated by many proponents
of DDoS attacks, it severely impedes the protesters’ ability to demonstrate their sincerity and
commitment. This together with the fact that DDoS attacks are also used by authoritarian
governments and professional cyber crime for entirely different purpose lead to the
conclusion that DDoS attacks are inferior and inefficient means of communication for civilly
disobedient acts online – especially when considering that this technique muzzles free speech
of the opponent.

But the journey did not stop there. Civil disobedience online is still in its early stages and
activists have to think of good ways how to transfer its philosophy and characteristics to
cyberspace. DDoS attacks are just one wrong way. Indian author and political activist
Arundhati Roy put it best by stating, that “we can re-invent civil disobedience in a million
different ways. In other words, we can come up with a million ways of becoming a collective
pain in the ass.” (Roy 2003) In order to re-invent it online this research illuminated two
features that may be of great importance. First, since there is no physical presence online,
one needs to demonstrate some form of individual presence – which is more than mere
accountability. ‘Individual presence’ attenuates the negative effects of remoteness for
political protests in cyberspace. This renders it more likely that society sees the commitment
and sincerity of the protesters and their action. Second, civil disobedience needs an
inimitable – a unique – feature online. Just like everybody can immediately recognize a sit-in
in the 'offline world', it is also necessary to be able to identify these actions online. This
means that focusing solely on the disruption of the information flow is counter-productive.
Protesters that utilize DDoS attacks expect from society to be able to differentiate between
political protest, cyber crime and authoritarian regime - although all of them utilize the
same technique and are thus indistinguishable. These two aspects, individual presence and
an inimitable feature, should be added to existing frameworks for the analysis of civil
disobedience, in order to examine online actions.
To give an example, Facebook’s censorship of “pornography” has long been perceived by some as hypocritical. Pictures of breast feeding mothers get banned (Bindley 2012), together with anatomical illustrations of a vagina. (MotherWise 2013) Some Facebook users continuously post those pictures to protest against Facebook’s terms of use – by breaking the latter. Although this surely is just a minor act of disobedience, it illustrates ‘individual presence’ and an inimitable feature. The ‘individual presence’ is possible because everybody has an account associated with her real name and quite likely much more than that. The inimitable feature would be the picture of a breast-feeding mother or the particular illustration of a vagina. These two features together enable others to form an opinion about the protester’s seriousness and conscientiousness. In this regard it is much more likely for these protests to constitute an act of civil disobedience online, than it is for DDoS attacks. To make sure, the point here is not if these protesters are right in their belief, nor should it be perceived as a plea for real-name accounts. It shall rather demonstrate that there already are forms – however minor – of civil disobedience online.

Thus DDoS attacks should be perceived as one of those re-inventions Arundhati Roy spoke of, but after more than a decade it is time to realize that this re-invention of civil disobedience online went in the wrong way. It is surely true what Spanish sociologist Manuel Castells concluded in his monumental trilogy The Information Age, that “the new economy is organized around global networks of capital, management, and information.” (Castells 2000, 502) And with this in mind it is easy to understand why digital activists that favor DDoS attacks argue, that the streets are the “location of dead capital. To seriously confront capital in its current mobile, electronic form, resistance must take place in the location where capital now exists in greatest concentrations, namely in cyberspace.” (Wray 1999, 109) But what would it mean to allow DDoS attacks to be the solution? It is how American economist W. Brian Arthur famously warned, we should not “always equate what is possible with what is desirable.” (Arthur 2009, 216) That realization Arthur speaks of is even more important in the case of DDoS attacks, because “technology is not a thing in the ordinary sense of the term, but an "ambivalent" process of development suspended between different possibilities. This ambivalence of technology is distinguished from neutrality by the role it attributes to social values in the design, and not merely the use, of technical systems. On this view, technology is not a destiny but a scene of struggle. It is a social battlefield, or perhaps a better metaphor would be a "parliament of things" in which civilizational alternatives contend.” (Feenberg 2002, 15) The social values inherent in DDoS attacks as protests would be, favoring disruption over discourse and activity over conscientiousness as a society.
This journey comes to an end by arriving at the beginning. Why are Thoreau and Gandhi ‘away from keyboard’? They are not. Although one cannot find their spirits in actions like DDoS attacks, their ideas can be found in protests like the before mentioned Facebook examples. Some Anonymous’ hackers now face prison time – among other things because of DDoS attacks. Yet it is unlikely that in the near future DDoS attacks as ‘protests’ will cease to exist. Consequently the arms race between DDoS attackers and defenders will go on and Anonymous will continue to hit the headlines with new attacks against Westboro Baptist Church, PayPal or others. In the meantime one can only hope that society accomplishes to re-invent civil disobedience online since it is needed desperately in a time in which “cyberspace is mainly a sphere of commerce, sex, and entertainment; it is economically dominated and a stratified sphere that reflects social inequalities and class relationships.” (Fuchs 2008, 281) Sadly, in this environment it is highly likely that civil disobedience online will (continue to) “represent a symptom of pseudo-activity for the young and the dispossessed.” (Quill 2009, 165) Thus Isaac Asimov’s observation still holds true, that “the saddest aspect of life right now is that science gathers knowledge faster than society gathers wisdom.”

But, ‘Hope dies last.’
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